



[an error occurred while processing this directive]

[Low graphics](#) | [Accessibility help](#)[News Front Page](#)[Africa](#)[Americas](#)[Asia-Pacific](#)[Europe](#)[Middle East](#)[South Asia](#)[UK](#)[Business](#)[Health](#)[Medical notes](#)[Science & Environment](#)[Technology](#)[Entertainment](#)[Also in the news](#)[Video and Audio](#)[Programmes](#)[Have Your Say](#)[In Pictures](#)[Country Profiles](#)[Special Reports](#)[RELATED BBC SITES](#)[SPORT](#)[WEATHER](#)[ON THIS DAY](#)[EDITORS' BLOG](#)[Watch](#) [One-Minute World News](#)

Last Updated: Friday, 13 April 2007, 11:41 GMT 12:41 UK

[E-mail this to a friend](#)[Printable version](#)

Sperm made from human bone marrow

Scientists say they have successfully made immature sperm cells from human bone marrow samples.



If mature sperm can be grown they could be used in fertility treatment

If these can be grown into fully developed sperm, which the researchers hope to do within five years, they may be useful in fertility treatments.

But experts have warned the findings from the German study should be interpreted with caution at this very early stage.

And proposed new laws would ban their use in fertility treatments in the UK.

How sperm is made from bone marrow tissue

The government's recent fertility White Paper proposes a ban on using artificially created sperm or eggs in assisted reproduction.

The researchers from the Universities of Göttingen and Münster and the Medical School of Hannover isolated adult stem cells - cells that have the ability to become many types of tissue in the body - from bone marrow samples taken from male volunteers.

“ This kind of work will be very useful in helping us understand the biology of how sperm are made ”

Dr Allan Pacey

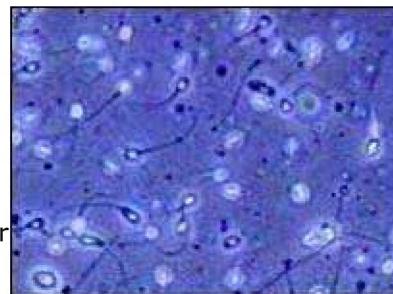
Spermatogonial cells

Normally these stem cells from the bone marrow would develop into the different cell types in muscle tissue.

But the researchers induced a small number of them to develop into what appeared to be spermatogonial cells - cells found in the testes which would normally develop into mature sperm cells.

This is the first time human spermatogonial cells have been made artificially in this way.

And lead researcher Professor Karim Nayernia, now at the North-east England Stem Cell Institute based at the Centre for Life in Newcastle upon Tyne,



News services

Your news when you want it



VIDEO AND AUDIO NEWS

An expert on how it could change fertility treatment[Watch](#)

SEE ALSO

- [Heart valve grown from stem cells](#)
03 Apr 07 | Health
- [Hybrid embryo work 'under threat'](#)
05 Jan 07 | Health
- [Q&A: Stem cells](#)
19 May 05 | Health

RELATED INTERNET LINKS

- [Centre for Stem Cell Research](#)
- [NESCI](#)

[British Fertility Society](#)

The BBC is not responsible for the content of external internet sites

TOP HEALTH STORIES

- [Stem cell method put to the test](#)
- [Hospitals 'eyeing private market'](#)
- [Low vitamin D 'Parkinson's link'](#)

[News feeds](#)

MOST POPULAR STORIES NOW

[MOST SHARED](#) [MOST READ](#)

- [BBC News](#)

Most popular now, in detail

said he hopes his investigations will mean he might one day be able to treat young men rendered infertile by chemotherapy.

Scientists have grown artificial sperm precursor cells

He said: "We're very excited about this discovery.

"Our next goal is to see if we can get the spermatogonial cells to progress to mature sperm in the laboratory and this should take around three to five years of experiments."

He acknowledged that the law may be a stumbling block.

Professor Harry Moore of the Centre for Stem Cell Biology at the University of Sheffield said: "This finding is of interest but we really need to be very cautious about the interpretation."

“ We are still many years away from developing any therapies for infertility using such techniques ”

Professor Harry Moore

The changing of stem cell types observed by the researchers, from pre-muscle to pre-reproductive cells, is known as trans-differentiation.

Caution needed

And Professor Moore said nearly all similar observations of trans-differentiation in adult stem cells had not been confirmed when tested rigorously, as the results could be misleading.

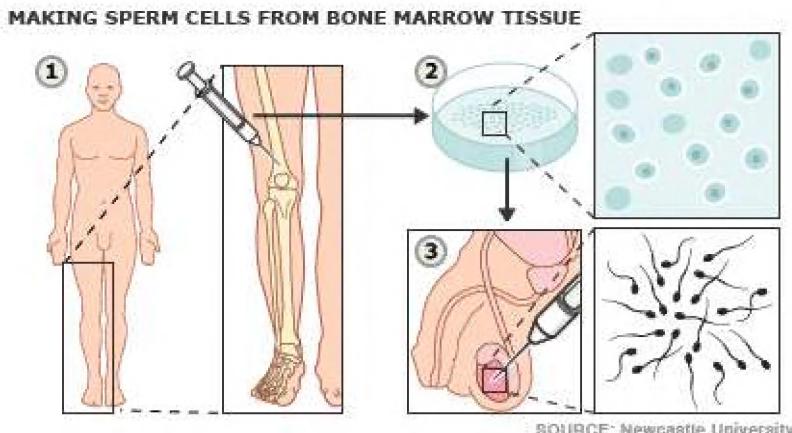
He said: "This is a fast moving field but we are still many years away from developing any therapies for infertility using such techniques."

And he warned that manipulating stem cells to develop into mature sperm could cause permanent genetic changes in the sperm, making the cells unsafe to use in fertility treatments.

However, Dr Allan Pacey, secretary of the British Fertility Society, said: "This kind of work will be very useful in helping us understand the biology of how sperm are made.

"That in itself may provide some insight into why things sometimes go wrong and may lead to new approaches to treating male infertility."

The findings were presented at an international fertility conference and are published in *Gamete Biology: Emerging Frontiers on Fertility and Contraceptive Development*.



1) Stem cells isolated from bone marrow of male volunteers

- 2) In laboratory, stem cells cultured and identified. Some induced to become spermatological cells - which normally become sperm cells
- 3) Transplantation of cells into testicle - so far performed in mice

[Click to return](#)

 [E-mail this to a friend](#)

 [Printable version](#)

FEATURES, VIEWS, ANALYSIS



[Ghost town](#)
Has China's housing bubble burst?



[The guerilla plant](#)
How the world's oldest clove tree defied an empire



[Walking away](#)
Why Royal Ballet principal Sergei Polunin quit

Most Popular Now

The most read story in Australasia is: [In pictures: New 9/11 photos released](#)

PRODUCTS & SERVICES

[E-mail news](#)

[Mobiles](#)

[Alerts](#)

[News feeds](#)

[Podcasts](#)

MMIX

[Back to top ^](#)

[Help](#) | [Privacy and cookies policy](#) | [News sources](#) | [About the BBC](#) | [Contact us](#) |